**Theory : Technical indicators / buy & sell signals**

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Table 1 and Table 2 contain all the information we need to calculate technical indicators and generate buy and sell signals.

Table Technical Indicators

|  |  |  |  |
| --- | --- | --- | --- |
| Indicator | Parameter | Conditions | Formula |
| Support /Resistance | n : interval length |  |  |
| Simple Moving Average | n : Order |  |  |
| Exponential Moving Average | λ : factor  n : Order |  | With : |
| MACD[[1]](#footnote-1) | : ordre  ordre  λ : factor |  |  |
| : ordre |  | Signal line :[[2]](#footnote-2) |
| Relative Strength Index (RSI) | n : order |  |  |
| Bollinger Bands | : ordre  : parameter |  | With : |
| Momentum | : ordre |  |  |
| ordre |  | Signal line : |
| Rate of Change  (ROC) | : ordre |  |  |
| Stochastic | : ordres |  | With ::The highest high price at the last n period  : The lowest lox price at the last n period |
|  |  |
| On Balance Volume  (OBV) |  |  | With |
| Williams %R | n : order |  |  |
| Money Flow Index  (MFI) | n : order |  | With: |
| Chaikin Oscillator  (CHO) | n : order |  | with : |
| Negative Volume Index (NVI) |  |  | With : |
| Positive Volume Index (PVI) |  |  | With : |

Table 2 Buy & sell signals

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Indicator | | | Signal | |
| Buy | Sell |
| Support /Résistance | | |  |  |
| Simple Moving Average | R1 | |  |  |
| R2[[3]](#footnote-6) | |  |  |
| MACD | R1 | | AND | AND |
| R2 | | AND | AND |
| RSI | | |  |  |
| Bollinger Bands | | | Or | Or |
| Momentum | | | AND | AND |
| Stochastic | | R1 | AND | AND |
| R2 |  |  |
| Williams %R | | |  |  |
| On Balance Volume  (OBV) | | | AND | AND |
| Rate Of Change  (ROC) | | |  |  |
| Money Flow Index  (MFI) | | | > 80% AND | < 20% AND |
| Chaikin Oscillator  (CHO) | | |  |  |
| Negative Volume Index (NVI) | | | AND | --------------------------------------------------[[4]](#footnote-7) |
| Positive Volume Index (PVI) | | | AND | AND |

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[7] Marek Patrice & Cadkova Vera, Optimization and testing of Money Flow Index (2020), https://www.researchgate.net/publication/339029303

[6] Steven B.Achelis, Technical Analysis from A to Z.

1. Moving Average Convergence Divergence [↑](#footnote-ref-1)
2. {MACD} indicate that MME of MACD [↑](#footnote-ref-2)
3. with : & [↑](#footnote-ref-6)
4. The sell signal of the NVI are not reliable [↑](#footnote-ref-7)